

October 22, 2007

FINDING OF NO SIGNIFICANT IMPACT
TO ALL INTERESTED GOVERNMENTAL AGENCIES AND PUBLIC GROUPS

As required by state and federal rules for determining whether an Environmental Impact Statement is necessary, an environmental review has been performed on the proposed action below:

Project	Whitefish Wastewater Treatment System Improvements
Location	Whitefish, Montana
Project Number	C301217-01
Total Cost	\$1,774,480

The City of Whitefish has proposed upgrades to the sanitary sewer system within the community. The overall project involves rehabilitation of the main lift station, solids screening and handling improvements, provision of main lift station bypass capabilities, construction of a redundant flocculating clarifier and rehabilitation of the existing flocculating clarifier.

The State Revolving Fund loan program may provide partial funding for the proposed project. Environmentally sensitive characteristics such as wetlands, floodplains, threatened or endangered species and historical sites are not expected to be adversely impacted as a result of the proposed project. Public participation during the planning process generally demonstrated support for the selected alternative. No significant long-term environmental impacts were identified. An environmental assessment (EA), which describes the project and analyzes impacts in more detail, is available for public review at the following locations:

Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

City of Whitefish
Office of City Manager
PO Box 158
Whitefish, MT 59937

Comments supporting or disagreeing with this decision may be submitted for consideration by the Department of Environmental Quality. After evaluating the comments received, the agency will make a final decision. However, no administrative action will be taken on the project for at least 30 calendar days after release of the Finding of No Significant Impact.

Sincerely,

Todd Teegarden, Bureau Chief
Technical and Financial Assistance Bureau
Planning, Prevention & Assistance Division

**CITY OF WHITEFISH
WASTEWATER TREATMENT SYSTEM IMPROVEMENTS PROJECT
ENVIRONMENTAL ASSESSMENT**

I. COVER SHEET

A. PROJECT IDENTIFICATION

Name of Project: City of Whitefish
Wastewater Treatment System Improvements Project
Applicant: City of Whitefish
Address: P.O. Box 158
Whitefish, MT 59937

B. CONTACT PERSON

Name: Gary Marks, City Manager
Address: P.O. Box 158
Whitefish, MT 59937
Telephone: (406) 863-2400

C. ABSTRACT

1. BACKGROUND

The City of Whitefish, through the May 2006 Preliminary Engineering Report (PER), prepared by Anderson – Montgomery Consulting Engineers, has identified the need to upgrade the existing wastewater treatment facility. The report identifies improvements needed to protect water quality within the watershed and receiving stream (Whitefish River).

The City of Whitefish is currently served by a central wastewater collection and treatment system. The treatment facility was modified from a phase isolation treatment system to an aerated lagoon facility in 1978. In 1986 the main lift station improvements and a phosphorus removal system were added. In 1995 the City received an Administrative Compliance Order from MDEQ to address unpermitted overflows and bypasses during high flow events. Since that time the City has implemented numerous steps to address overflows and bypass events. However, since January 2004, fourteen Sanitary Sewer Overflow (SSO) events have been documented resulting in a new Administrative Order on Consent being issued in September 2006.

In 2005 the City initiated an update to its overall Utility Master Plan. A Preliminary Engineering Report (PER) was completed in 2006 which identified the following needs within the wastewater system:

- The existing head works / lift station facility is proposed to be upgraded. The proposal recommends constructing a new building to house the lift station and screening equipment, installing a rotary screen to remove solids and stringy materials more effectively, dewater and containerize the materials for disposal.

- A main lift station bypass is proposed as a trailer mounted assembly using a high capacity pump to bypass the main lift station to aid with inspection, cleaning and servicing of the main lift station.
- The proposed project also involves the installation of a second flocculating clarifier. This measure is proposed to provide redundancy of a critical phosphorous removal operation and to allow for inspection, cleaning and servicing of the existing clarifier.
- The existing pump capacity at the main lift station is proposed to be increased by replacing the existing pump impellers on pumps #1 & #2. This work is proposed to be City funded.
- Extensive areas (approximately 1654 lineal feet) of sewer main are proposed for replacement as part of the Phase I - Highway 93 reconstruction project scheduled to begin in 2008. This work is proposed to be City funded.
- Four collection system lift stations have been identified within the PER as needing new control systems and back-up power receptacles. This work is proposed to be City funded.
- Sewer mains known to have capacity problems (under sized) and others with structural or plugging problems (roots & obstructions) have also been identified as a high priority. This work is proposed to be City funded.

2. DESCRIPTION OF PROJECT

The project proposed to be partially funded with State Revolving Fund (SRF) loan financing involves rehabilitation of the main lift station, solids screening and handling improvements, provision of main lift station bypass capabilities, construction of a redundant flocculating clarifier and rehabilitation of the existing flocculating clarifier. These items were identified as the preferred alternatives presented in the PER. These portions of the project are proposed to be funded with SRF loan funds.

Sewer collection system improvements were also established within the PER through an analysis of sewers compiled and prioritized where problem areas were found. Those sewers identified in the report as priority "A" are proposed for replacement / repair concurrent with the Highway 93 improvements project being administered by the MDOT. That project is expected to begin the construction phase in 2008. These identified collection system improvements are not currently proposed to be funded with SRF loan financing.

Federal and State grant/loan programs will help fund the project. Environmentally sensitive characteristics such as wetlands, floodplains and threatened or endangered species are not expected to be adversely impacted as a result of the proposed project. No significant long-term environmental impacts were identified.

3. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

Under Montana law, (75-6-112, MCA), no person, including a municipality, may construct, extend, or use a public sewage system until the Montana Department of Environmental Quality (MDEQ) has reviewed and approved the plans and specifications for the project. Under the Montana Water Pollution Control State Revolving Fund Act, the MDEQ may loan money to municipalities for construction of public sewage systems.

The renovated solids screening / lift station, bypass facility, flocculating clarifier and sewer mains will be constructed in accordance with State design standards. A Stormwater Discharge General Permit and a construction-dewatering permit from the MDEQ may be required prior to construction. No additional permits will be required from the State Revolving Fund (SRF) section of the MDEQ for this project after the review and approval of the submitted plans and specifications and authorization to award the construction contract. A permit for construction in the floodplain (floodplain development permit) may be required from Flathead County.

It is recognized by the department, designer and community leadership that this phase of improvements may not allow for continued compliance with future discharge standards. This phase of proposed work will help the community to remain compliant with the existing discharge permit and accommodate limited growth. The proposed improvements may not allow for ammonia, nitrogen or fecal coliform (e-coli) compliance in future permit cycles. This was factored into the planning document (PER) and it has been proposed that if future in-stream standards are such that continued discharge can not meet permit conditions, the City may need to undergo another phase of design and improvements to move toward more advanced treatment.

The MDEQ, Technical & Financial Assistance Bureau, has prepared this Environmental Assessment (EA) because the MDEQ received a Preliminary Engineering Report for its review and written approval, in addition to an application for a State Revolving Fund (SRF) loan for the project. This EA has been prepared to satisfy the requirements of the Montana Environmental Policy Act (MEPA).

D. COMMENT PERIOD

Thirty (30) calendar days from date of publication.

II. PURPOSE AND NEED FOR ACTION

The City of Whitefish is located in northwest Montana in Flathead County. Whitefish is located approximately 11 miles north of Kalispell, MT (See Figure 1 – Site Map). The City of Whitefish is primarily contained within Section 25, T31N, R22W, Sections 29 & 30, T31N, R21W, Section 36, T31N, R22W and Sections 31 & 32, T31N, R22W, M.P.M. The wastewater treatment facilities are located in the northwest quarter of Section 5, T30N, R21W, M.P.M. The project planning area is shown on Figure 2.

The City of Whitefish has experienced a series of SSO events over the past 12 to 15 years. Some of these events have lead to the discharge of untreated wastewater to State Waters and in all cases pose a sanitary risk to the public. Failure of lift station pumps due to control problems, infiltration and inflow of groundwater and surface water and obstructions with sewers have been documented as the primary causes of these SSO

events. The City is attempting to remedy these SSO problems with new controls, portable back-up power supplies and correction of infiltration and inflow of groundwater which can seasonally overwhelm lift station pumps.

The main lift station is serviced by an older bar screen which is contained within a confined space making maintenance and servicing very difficult. It does not remove all rags, stringy materials or other small objects and allows a significant amount of debris to enter the aerated ponds and at times be passed into the final clarifier. This results in a significant level of maintenance on the part of the operations staff to remove these materials. Also, this main lift station has no bypass allowing for service and maintenance. Seasonally the influent to the main lift station exceeds the treatment capacity of the plant. So at those times the isolation ponds are used as equalization basins to hold excess influent until inflow subsides and the waste stream can be routed back to primary treatment. During wet years, this has resulted largely due to stormwater intrusion and runoff entering the collection system.

The existing three cell aerated lagoon system followed by final phosphorus removal and effluent polishing in the single flocculating clarifier has allowed the City to comply with current discharge permit requirements. However the facility can not meet those requirements if the clarifier goes off line.

The proposed project is important for several reasons related to community growth, public health and environmental protection. The new solids screening process and lift station would allow operations staff more flexibility in pre-treatment, pump servicing and maintenance. This action would also lessen the risk to operations staff with respect to workplace safety. The new flocculating clarifier would potentially increase capacity, improve treatment and provide for serviceability and maintenance of the older clarifier.

Collection system repairs are well justified due to the amount of intrusion and presumably leakage that is currently documented. Influent flow rates and waste stream concentrations vary significantly at the head works on a seasonal basis. This results in dramatically increased influent volumes being processed through the facility on a seasonal basis.

Based on the concerns related to public health and environmental protection, the City of Whitefish hired an engineer to prepare a Preliminary Engineering Report (PER) to address the wastewater treatment system problems. The recommendations made within that PER are currently being considered by the Department of Environmental Quality and pursuant to the outcome of this analysis, may lead to approval to proceed with design and construction of those recommended improvements.



Figure 1 Site Location Map – Whitefish.



Figure 2
Wastewater Treatment Plant Site Plan

III TECHNOLOGIES INVESTIGATED INCLUDING THE PROPOSED ACTION

A. WASTEWATER PRETREATMENT TECHNOLOGIES

Three solids screening and handling alternatives were considered within the PER. The pre-treatment technologies discussed in the PER included the following:

1. Mechanical Screening equipment installed within the existing building structure.
2. Replace the existing bar screen with new rotary mechanical screen and solids handling in a new lift station building structure.
3. No Action Alternative

1. MECHANICAL SCREENING WITHIN EXISTING MAIN LIFT STATION

This alternative considered the possibility of modifying the existing main lift station facility to replace the existing bar screen with new mechanical screening and solids handling equipment. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

2. MECHANICAL SCREENING WITH NEW MAIN LIFT STATION

This alternative considered the construction of a new main lift station building to house the lift station pumps, wet well and appurtenances. It also considered the installation of new rotary screen and solids handling equipment within the new structure. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

3. NO ACTION ALTERNATIVE

Taking no action was considered and rejected because of the ongoing maintenance issues associated with the existing lift station facility. Currently operators must enter a confined space (in winter with icy conditions) to clean the existing screen and remove solids manually. The no action alternative was not further considered for the reasons stated.

B. WASTEWATER PUMPING CAPACITY AT MAIN LIFT STATION

Also considered within the main lift station improvements project were four options for addressing pumping capacity issues.

1. REPLACE IMPELLERS IN PUMPS #1 & #2

This alternative considered the possibility of replacing the impellers within pumps #1 & #2 to increase output to meet 20 year design life. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

2. REPLACE PUMPS #1 & #2 WITH LARGER PUMPS

This alternative considered the possibility of replacing pumps #1 & #2 with new motors and impellers to increase capacity to meet the 20 year design period. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

3. REDUCE CLEAR WATER INPUTS

This alternative considered the possibility of reducing infiltration and inflow (I&I) of groundwater and stormwater to lessen the volume of influent needing to be pumped through the main lift station. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

4. NO ACTION ALTERNATIVE

This alternative considered not taking any action to improve pumping capacity or reduce flows at the main lift station. This alternative would not allow the main lift station to meet the 20 year design criteria, and would leave the City with a significant risk with respect to seasonal high flow conditions. The no action alternative was not further considered for the reasons stated.

C. MAIN LIFT STATION BYPASS ALTERNATIVES

A total of two main lift station bypass alternatives were evaluated within the PER. They included the 1) Purchase of a trailer mounted bypass pump and installation of bypass line, valves and appurtenances; and 2) No Action.

1. PROVISION OF BYPASS PUMPING EQUIPMENT AND APPURTENANCES

This alternative considered the possibility of adding a bypass pump on a trailer mounted platform for use in temporarily bypassing the main lift station pumping equipment for service and replacement work. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

2. NO ACTION ALTERNATIVE

Taking no action was considered and rejected because the existing lift station pumping equipment is not serviceable at present. All three pumps are located within the same wet well structure. The pumps can not be taken off line for service and maintenance work in part due to the growth within the community and increased flows (especially seasonally). The no action alternative was not further considered for the reasons stated.

D. COLLECTION SYSTEM ALTERNATIVES

A total of four collection system alternatives including the “no action” alternative were evaluated within the PER. The collection system alternatives were evaluated and identified within the PER on the basis of priority with respect to age, capacity, existing condition and future capacity.

1. PRIORITY “A” COLLECTION SYSTEM NEEDS

The sections of collection system included within Priority “A” included the most serious areas of the collection system based upon the above mentioned factors. A large percentage of these mains would be sequenced for replacement with the Phase I Highway 93 improvements project. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

2. PRIORITY “B” COLLECTION SYSTEM NEEDS

The sections of collection system included within Priority “B” included a large

number of collection system mains needing upgrading based upon the above mentioned factors. Some of these mains would be sequenced for replacement with the Phase II Highway 93 improvements project. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

3. PRIORITY “C” COLLECTION SYSTEM NEEDS

The sections of collection system included within Priority “C” included a small number of collection system mains needing upgrading based upon the above mentioned factors. The replacement of these mains is being considered primarily for future growth. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

4. NO ACTION ALTERNATIVE

This alternative would result in the community taking no action with any of the collection system improvements. Because the no action alternative could lead to continued SSO events, burden the existing treatment plant on a seasonal basis and result in future pavement cutting and patching if not sequenced with the Highway 93 Improvements project, it was not further considered. The no action alternative was not further considered for the reasons stated.

E. COLLECTION SYSTEM LIFT STATIONS

The PER also evaluated all lift stations within the collection system and summarized the following needs. Two alternatives were considered with respect to collection system lift station needs; 1) corrective improvements and 2) no action.

1. COLLECTION SYSTEM LIFT STATIONS

All 14 lift stations within the community were evaluated and the following list summarizes the corrections considered:

1. New control system for Miller lift station.
2. New control system, extend 3-phase power and provide emergency power receptacle for Houston Point lift station.
3. New pumps, control system and emergency power receptacle for Monk’s Bay lift station.
4. Replace entire Scott Avenue lift station. Move to northwest to increase potential service area.
5. Provide emergency power receptacles at Bohemian and Rest Haven lift stations.
6. Increase capacity of Viking lift station – larger wetwell and pumps. Also upsize gravity collection line downstream of the Viking force main.
7. Increase capacity of Mountain Park lift station – larger wetwell and pumps.
8. Increase capacity of Birch Point lift station – larger wetwell and pumps.
9. Increase capacity of Riverside lift station – larger wetwell and pumps.
10. Increase capacity of Texas-Colorado lift station – larger wetwell and

pumps.

Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

2. NO ACTION ALTERNATIVE

This alternative would result in the community taking no action with any of the collection system lift station improvements. Because the no action alternative could lead to continued SSO events and overload the existing treatment plant on a seasonal basis, it was not further considered. The no action alternative was not further considered for the reasons stated.

F. FLOCCULATING CLARIFIER

Currently a single flocculating clarifier is used at the facility to remove phosphorous and ensure compliance with the existing discharge permit. The PER evaluated four alternatives, including a “no action” alternative, with respect to nutrient removal.

1. REHABILITATION OF THE EXISTING FLOCCULATING CLARIFIER

The existing flocculating clarifier is approaching the end of it's design and useful life without extensive rehabilitation. Failure to perform these upgrades could result in discharge violation with significant emergency repair costs and potential regulatory enforcement action. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

2. CONSTRUCTION OF A NEW REDUNDANT FLOCCULATING CLARIFIER

The existing flocculating clarifier is approaching the end of it's design and useful life without extensive rehabilitation. Failure to perform these upgrades could result in discharge violation with significant emergency repair costs and potential regulatory enforcement action. Having a back-up clarifier would provide the ability to take the primary clarifier off line to make repairs and perform service work. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

3. CONSTRUCTION OF A NEW NUTRIENT REMOVAL TECHNOLOGY

The existing flocculating clarifier is approaching the end of it's design and useful life without extensive rehabilitation. Failure to perform these upgrades could result in discharge violation with significant emergency repair costs and potential regulatory enforcement action. This alternative looks at the potential to construct some new form of advanced nutrient removal at the facility to enhance treatment and meet future regulatory standards. Because this technology is practical in terms of environmental and regulatory considerations, this technology was further evaluated.

4. NO ACTION ALTERNATIVE

This alternative would result in the community taking no action with any of the nutrient removal improvements. The existing flocculating clarifier is approaching the end of its design and useful life without extensive rehabilitation. Because the no action alternative could lead to inadequate treatment should the clarifier fail, it was not further considered. The no action alternative was not further considered for the reasons stated.

IV FEASIBLE ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. WASTEWATER PRETREATMENT TECHNOLOGIES

1. MECHANICAL SCREENING WITHIN EXISTING MAIN LIFT STATION

Alternative 1 would replace the existing bar screen with a newer mechanical screen with some form of self cleaning and solids handling within the existing lift station / head works structure. Due to the nature of the existing wetwell and head works facility, it was determined that this alternative would not eliminate the confined space entry situation that exists currently. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative was not selected as the preferred alternative.

2. MECHANICAL SCREENING WITH NEW MAIN LIFT STATION

Alternative 2 would replace the existing bar screen, wetwell and head works facility with a new building, new wetwell, above grade mechanical screening and solids handling system. Given the significant risk posed to operational staff to service the pretreatment facility, this alternative was posed to eliminate the risk and to provide for more advance pretreatment. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative was selected as the preferred alternative.

B. WASTEWATER PUMPING CAPACITY AT MAIN LIFT STATION

1. REPLACE IMPELLERS IN PUMPS #1 & #2

Alternative 1 would replace the existing impellers on pumps #1 & #2 in the main lift station with new impellers to improve performance and increase possible pumping capacity. It is estimated within the PER that the capacity of these two pumps can be increased from a combined flow capability of 2,500 gpm to approximately 4,300 gpm by replacing impellers. This alternative would not address the exiting pump motors or power feed. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative was selected as the preferred alternative.

2. REPLACE PUMPS #1 & #2 WITH LARGER PUMPS

Alternative 2 would replace the existing impellers on pumps #1 & #2 in the main lift station with new impellers to improve performance and increase possible pumping

capacity. This alternative would also replace the existing motors and power feeds with larger motors and increased power feeds. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative may be implemented at a later date when the existing pump motors are near the end of useful life. It was not chosen as the preferred alternative at this time.

3. REDUCE CLEAR WATER INPUTS

This alternative would attempt to reduce storm water and groundwater inputs to a level which would allow the existing pumping station the capacity to accommodate the 20 year design flows. This option would require a large investment in rehabilitating an estimated 12,000 lineal feet of sewer mains and appurtenances, addressing storm leaders and basement sumps draining to the sewer system and other sources of clear water. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative will be attempted in a phased approach over the next many years, but can not be counted on entirely to eliminate the need to improve the capacity of the main lift station. It was not chosen as the preferred alternative at this time.

C. MAIN LIFT STATION BYPASS

1. PROVISION OF BYPASS PUMPING EQUIPMENT AND APPURTENANCES

This alternative enables the operations staff to adequately access and service pumps, valves and equipment within the existing pump station with one or more of the existing pumps off line. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative was selected as the preferred alternative.

D. COLLECTION SYSTEM ALTERNATIVES

1. PRIORITY "A" COLLECTION SYSTEM IMPROVEMENTS

Priority "A" establishes a summary of the collection system areas most needing replacement / upgrading. Most of the mains, manholes and other collection system components identified within this alternative would be addressed in conjunction with the first phase of the Highway 93 Improvements project scheduled to begin in 2008. Performing these improvements is expected to address some significant groundwater and stormwater intrusion and in a few areas allow for increased main capacity. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative was selected as the preferred alternative.

2. PRIORITY "B" COLLECTION SYSTEM IMPROVEMENTS

Priority "B" establishes a summary of the collection system areas next on a prioritized list needing replacement / upgrading. Some of the mains, manholes and other collection system components identified within this alternative would be addressed in conjunction with the second phase of the Highway 93 Improvements

project scheduled to begin in 2009 - 2010. Performing these improvements is expected to address some significant groundwater and stormwater intrusion and in a few areas allow for increased main capacity. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative was selected as the preferred alternative for a future date.

3. PRIORITY "C" COLLECTION SYSTEM IMPROVEMENTS

Priority "C" establishes a summary of the collection system areas next on a prioritized list needing replacement / upgrading. The sections of piping and appurtenances identified within this group were identified as needing replacement primarily in response to growth or expected growth. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative was not selected as a preferred alternative, but may need to be addressed within the next several years.

E. COLLECTION SYSTEM LIFT STATIONS

1. COLLECTION SYSTEM LIFT STATIONS

Due to known lift station electrical, control, mechanical and SSO problems which have occurred in the past, the following summarizes the corrections chosen as preferred alternatives:

1. New control system for Miller lift station. A priority.
2. New control system, extend 3-phase power and provide emergency power receptacle for Houston Point lift station. A priority.
3. New pumps, control system and emergency power receptacle for Monk's Bay lift station. A priority.
4. Replace entire Scott Avenue lift station. Move to northwest to increase potential service area. A priority.
5. Prove emergency power receptacles at Bohemian and Rest Haven lift stations. B priority.
6. Increase capacity of Viking lift station – larger wetwell and pumps. Also upsize gravity collection line downstream of the Viking force main. C priority.
7. Increase capacity of Mountain Park lift station – larger wetwell and pumps. C priority.
8. Increase capacity of Birch Point lift station – larger wetwell and pumps. B priority.
9. Increase capacity of Riverside lift station – larger wetwell and pumps. C priority.
10. Increase capacity of Texas-Colorado lift station – larger wetwell and pumps. C priority.

F. FLOCCULATING CLARIFIER

1. REHABILITATION OF THE EXISTING FLOCCULATING CLARIFIER

Alternative 1 was considered as a means of rehabilitating the existing flocculating clarifier. Because the existing clarifier can not be taken off line, and due to needed

additional capacity, this step alone can not be accomplished without first constructing a redundant phosphorous removal process. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative alone could not be selected as a preferred alternative, but is a component of the preferred alternative.

2. CONSTRUCTION OF A NEW REDUNDANT FLOCCULATING CLARIFIER

Alternative 2 was considered as a means of addressing much needed maintenance of the existing flocculating clarifier, allowing for additional treatment capacity and providing redundancy in a critical treatment step. Based upon a comparison of cost, operability, energy, land requirements, environmental issues, regulatory issues, and treatment performance, this alternative in combination with rehabilitating the existing flocculating clarifier was selected as a preferred alternative.

3. CONSTRUCTION OF A NEW NUTRIENT REMOVAL TECHNOLOGY

Over the planning life for the Whitefish wastewater treatment facility it is understood some form of more advanced wastewater treatment will need to be constructed. It is not yet known what level of treatment will be necessary. Facilities which would allow for Biological Nutrient Removal, enhanced chemical removal or other treatment mechanisms may be needed to meet future discharge permit limits, but Whitefish and the designer have no means of predicting the level of performance that will need to be achieved at this time. As a result, those improvements are not included in the current proposal. Regardless of what improvements will be required to meet future nutrient limits, the proposed improvements are a necessary first step in meeting those future limits. Because the existing needs are such that the proposed project is necessary to continue meeting capacity and existing treatment standards, this alternative was not chosen as the preferred alternative at this time.

COST EVALUATIONS FROM ALTERNATIVES ANALYSIS

TABLE 1 – COST ANALYSIS: A. WASTEWATER PRETREATMENT ALTERNATIVES

Alternative	Total Capital Cost	Yearly O&M Change	O&M Present Worth @ 6%	Total Present Worth @ 6%
ALT. 1 – Mechanical Screening in Existing Bldg.	\$284,710	\$12,150	\$446,945	\$731,655
ALT. 2 – Mechanical Screening in New Building	\$388,350	\$5,900	\$217,035	\$605,385
ALT. 3 – No Action	NA	NA	NA	NA

TABLE 2 – COST ANALYSIS: B. WASTEWATER PUMPING CAPACITY AT MAIN LIFT STATION ALTERNATIVES

Alternative	Total Capital Cost	Yearly O&M Change	O&M Present Worth	Total Present Worth
ALT. 1 – Replace Impellers – Pumps 1 & 2.	\$12,240	NA	NA	\$12,240
ALT. 2 – Replace Impellers, Motors & Power Feed – Pumps 1 & 2.	\$52,767	NA	NA	\$52,767
ALT. 3 – Reduce Clear Water Inputs	\$1,950,000	NA	NA	\$1,950,000
ALT. 4 – No Action	NA	NA	NA	NA

TABLE 3 - COST ANALYSIS: C. MAIN LIFT STATION BYPASS ALTERNATIVES

Alternative	Total Capital Cost	Yearly O&M Change	O&M Present Worth @ 6%	Total Present Worth @ 6%
ALT. 1 – New trailer mounted bypass station	\$77,000	\$950	\$34,946	\$111,946
ALT. 2 – No Action	NA	NA	NA	NA

TABLE 4 - COST ANALYSIS: D. COLLECTION SYSTEM ALTERNATIVES

Alternative	Quantity of Piping (LF)	Estimated Construction Cost	Recommended Time Frame Years	Total Estimated Project Cost
ALT. 1 – Collection System Priority A Improvements	5,200	\$550,654	0 – 5	\$770,916
ALT. 2 – Collection System Priority B Improvements	12,250	\$1,508,710	0 – 10	\$2,112,194
ALT. 3 – Collection System Priority C Improvements	1,730	\$309,981	10 – 15	\$433,974
ALT. 4 – No Action	NA	NA	NA	NA

TABLE 5 - COST ANALYSIS: E. COLLECTION SYSTEM LIFT STATION ALTERNATIVES

Alternative	Number of Units (LS)	Estimated Construction Cost	Recommended Time Frame Years	Total Estimated Project Cost
ALT. 1 – Collection System Lift Station Priority A Improvements	4	\$295,000	0 – 5	\$360,500
ALT. 2 – Collection System Lift Station Priority B Improvements	3	\$75,400	0 – 10	\$104,968
ALT. 3 – Collection System Lift Station Priority C Improvements	4	\$339,350	10 – 15	\$481,877
ALT. 4 – No Action	NA	NA	NA	NA

TABLE 6 – COST ANALYSIS: F. FLOCCULATING CLARIFIER ALTERNATIVES

Alternative	Total Capital Cost	Yearly O&M Change	O&M Present Worth @ 6%	Total Estimated Project Cost
ALT. 1 – Rehab Existing Clarifier	\$658,000	\$10,900	\$400,963	\$1,058,963
ALT. 2 – Construct New Redundant Clarifier	\$1,225,000	\$9,200	\$338,427	\$1,563,427
ALT. 4 – No Action	NA	NA	NA	NA

G. ALTERNATIVE ANALYSIS

1. WASTEWATER COLLECTION

Of the alternatives evaluated within the body of the PER, the following are those identified as the preferred alternatives with respect to the wastewater collection system:

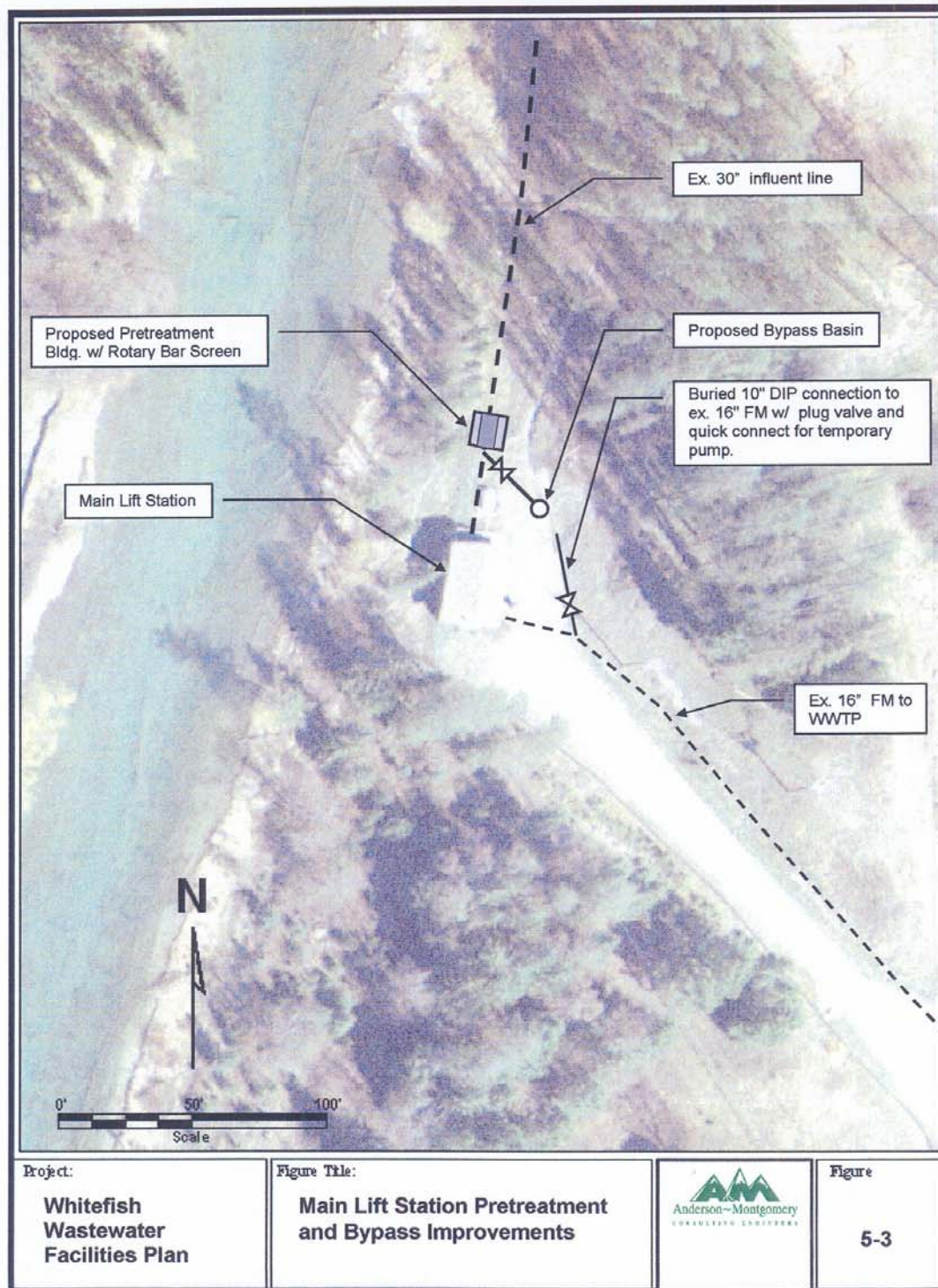
- Collection system Priority “A” piping improvements to be completed in conjunction with Phase I Highway 93 street project.
- Collection system Priority “B” piping improvements to be completed in conjunction with Phase II Highway 93 street project.
- Collection system Lift Station priority “A” improvements resulting in improvements at four existing lift stations within the collection network within the next five years.

2. WASTEWATER TREATMENT AND MAIN LIFT STATION

Of the alternatives evaluated within the body of the PER, the following are those identified as the preferred alternatives with respect to the Main Lift Station and Treatment components:

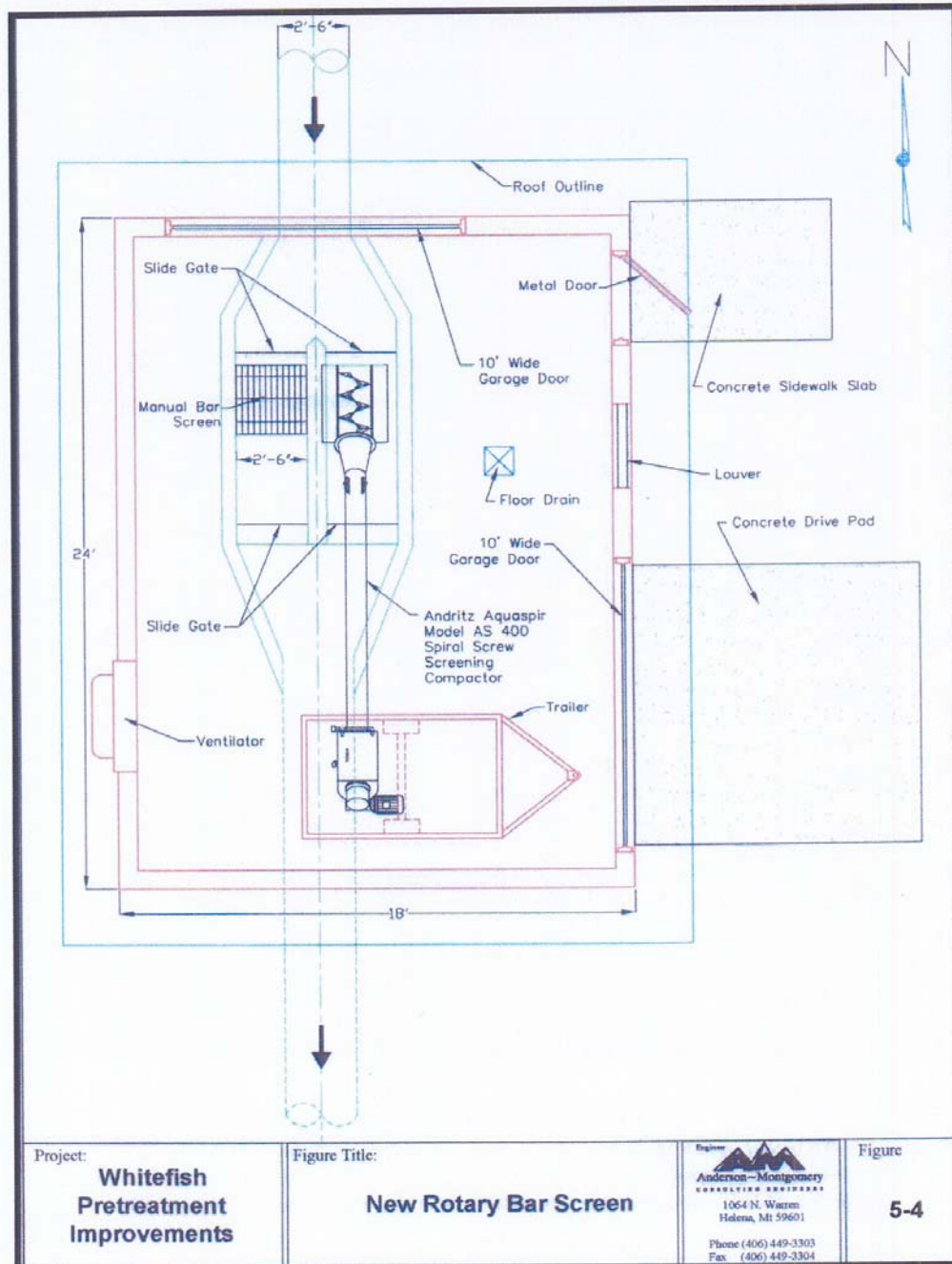
- New rotary mechanical screening equipment and appurtenances within a new pump station building structure.
- Acquisition and installation of trailer mounted bypass pumping equipment to allow for Main Lift Station servicing.
- Addition of new flocculating clarifier to allow for increased treatment capacity and servicing of existing clarifier.

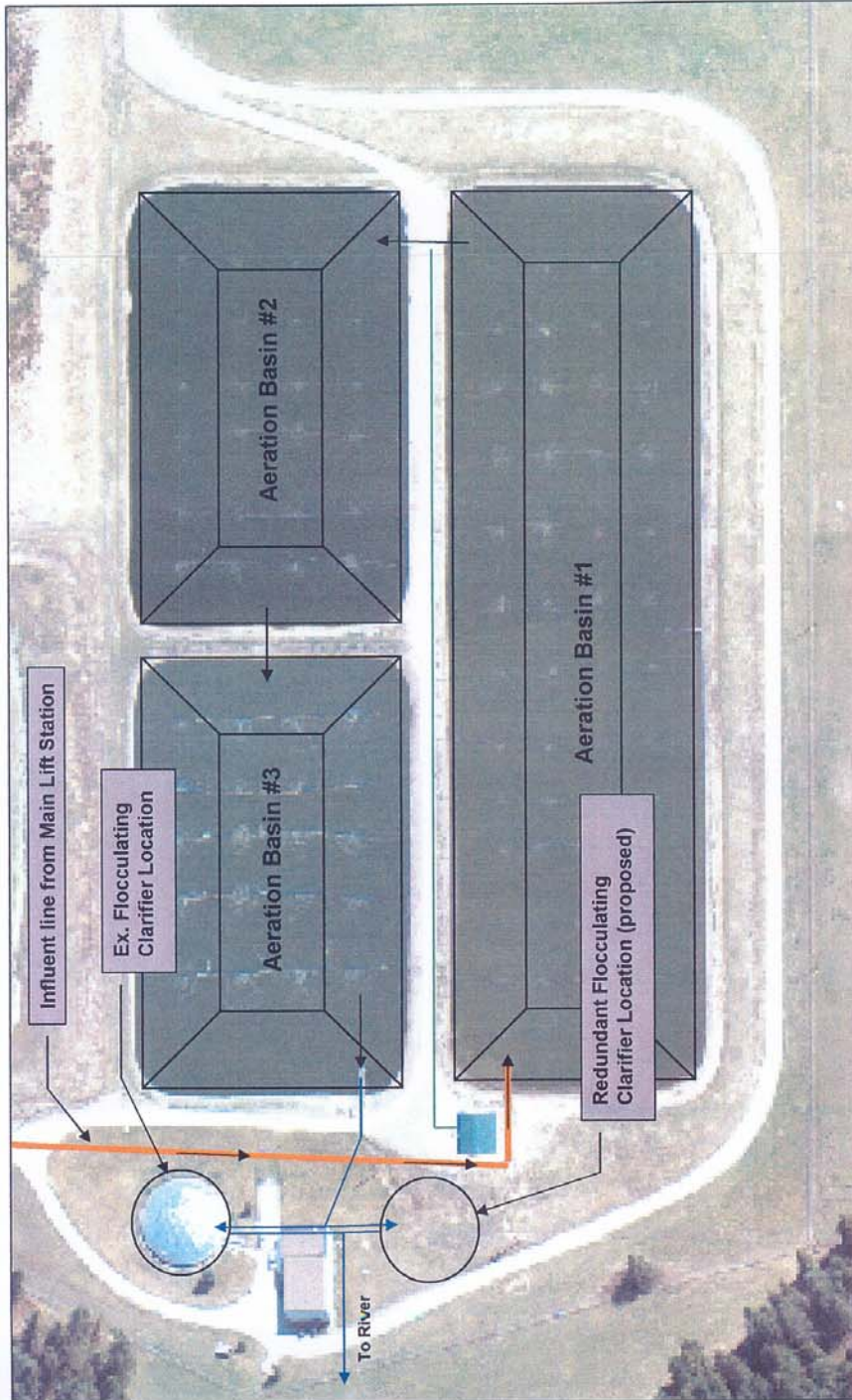
Schematic and air photo overlay plans of the preferred alternatives proposed to be funded with State Revolving Fund loan money are presented on the following pages as Figures 5-3, 5-4 & 5-5. These drawings are taken directly from the PER prepared by Anderson-Montgomery Consulting Engineers.



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City of Whitefish
Preliminary Engineering Report
Chapter 5- Alternative Analysis and Recommendations





Designed by: Paul Montgomery

FIGURE 5.5

Figure Title: **Flocculating Clarifier Location Figure**

Project Title: **Whitefish WW Facilities Plan**

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H. FINANCIAL IMPACT OF PROJECT

A summary of the funding strategy for the proposed Wastewater Treatment and Main Lift Station improvements is shown in Table 7. Approximately half of the funding needed would be secured as grants, a small portion from City of Whitefish reserve accounts and the remaining cost would be with revenue bond financing from a 20-year low interest loan from the State Revolving Fund (SRF) loan program. The loan would be paid off through an approximate \$1.81 per month increase to each user (Dwelling Unit). The existing sewer rate is \$29.96 per month to each user. Most public financing agencies consider an annual sewer rate that is greater than 0.9% of the median household income to be above the target rate, or a high cost utility. The 2000 census indicates the median household income for the Whitefish area is \$24,098. Therefore, the proposed monthly sewer rate of \$31.93 per month is 1.59% of the median household income, which is well over the target rate of \$20.26. When combined with the water rate, the combined target rate calculation results in 123.8% of the target rate.

TABLE 7 - PROJECT FINANCING SUMMARY

<u>Funding Sources</u>	<u>Contribution</u>
TSEP Grant	\$ 750,000
DNRC Grant	\$ 100,000
State Revolving Fund (SRF) loan	\$ 911,480
Local Reserves	\$13,000
Total Estimated Cost of Project	\$1,774,480

V. AFFECTED ENVIRONMENT

A. PLANNING AREA

The City of Whitefish is located in northwest Montana in Flathead County. Whitefish is located approximately 11 miles north of Kalispell, MT (See Figure 1 – Site Map). The City of Whitefish is primarily contained within Section 25, T31N, R22W, Sections 29 & 30, T31N, R21W, Section 36, T31N, R22W and Sections 31 & 32, T31N, R22W, M.P.M. The wastewater treatment facilities are located in the northwest quarter of Section 5, T30N, R21W, M.P.M. The project planning area is shown on Figure 2.

B. EXISTING FACILITIES

The following information is from the PER.

The Whitefish wastewater treatment facility was modified from “Phase Isolation” treatment to an aerated lagoon facility in 1978. In 1986, improvements were made to the main lift station and a phosphorus removal process was added downstream of the facility’s aerated lagoons. In 1995, the City received an Administrative Compliance Order (AOC) from the MDEQ in response to unpermitted overflows and bypasses during high flow events. Since that AOC, the City has implemented numerous projects to rectify problems with the wastewater infrastructure, including inflow mitigation, long-term solids handling, upgrading the aeration system, influent structure, Main Lift Station pump capacity, and control improvements. In 2005 the City initiated the process of updating its overall Utility Master Plan and identified a number of remaining needs throughout the wastewater system. In 2006, the City completed a Wastewater System Preliminary Engineering Report that further assesses the remaining needs, evaluates feasible alternatives and recommends capital improvements to address those needs. The remaining wastewater infrastructure needs include, Main Lift Station wetwell maintenance, phosphorous-removal process redundancy, rehabilitation of the existing flocculating clarifier, evaluation of the effluent diffuser, biosolids disposal permitting and repair of eroded dikes in the aerated lagoons. The City anticipates funding through TSEP and DNRC to implement specific recommendations from the 2006 wastewater PER. These include pretreatment, Main Lift Station bypass capability, and phosphorous-removal redundancy.

C. FLOW PROJECTIONS

The per capita flow is estimated to be 136.6 gallons per capita per day (gpcd) and the average flow was estimated at 831,000 gallons per day (gpd). The estimated population of the City is 11,157 people. The design population is 20,398 with a growth rate predicted at 5% per year over the next 10 years and then reducing that growth rate to 3% from 10 years out until the end of the 20-year planning period. Flow inputs during the wet Spring season increase dramatically.

D. NATURAL FEATURES

As indicated in the PER, “the geology of the Study Area is comprised of uplifted ancient sediments that created mountains, glacial deposits and subsequently weather erosion of exposed materials. Materials likely to be encountered include glacial deposits, alluvium and Precambrian sedimentary rock of the Belt series.

Glacial deposits consisting of lacustrine silt, clay, gravel, glacial drift and alluvial fan

materials cover the majority of the Study Area. These materials may be found in the level to gently rolling terrain that exists across much of the upper Flathead Valley. Alluvium is found along streams and bordering the Whitefish River. The alluvium typically consists of silt, sand, gravel, and cobbles eroded from bedrock or glacial outwash deposits. The Belt series sedimentary rocks (typically limestones, dolomites, and argillites) underlie the Flathead Valley and form the mountains that surround the Study Area.”

Groundwater sources within the Study Area are generally “hard” waters due to the exposure to limestone bedrock deposits and glacial limestone. They are often heavily mineralized with iron and/or manganese and have been determined through earlier studies funded by the City to be of such marginal quality as to prevent their reliable use for drinking water.

The area adjacent to the Whitefish River is within the FEMA identified 100 year floodplain in many areas along the River corridor. However, the improvements proposed are not within the mapped floodplain boundary.

Vegetation within the Study Area is categorized by agriculture, coniferous forest, deciduous woodlands and riparian zone vegetation. Agricultural lands, located predominantly to the south and east of Whitefish, are used to grow wheat, barley, oats, rye and hay grass. Pasture land in the study area contains various clovers, timothy, fescue and bluegrass species. Riparian areas generally are vegetated with cottonwoods, willows, alders and dogwood species with an understory of numerous grasses and forbs. Deciduous woodlands may be found in upland and riparian areas and often contain vegetation similar to that found in riparian areas. The woodland areas may also contain aspen, larch and sometimes cottonwoods and various other shrubs. Coniferous forest is scattered throughout the Study Area. Species common to these areas are white spruce, Douglas-fir, lodgepole pine, with an understory of grasses and shrubs.

The Study Area supports a variety of wildlife species. Increased human development has placed considerable pressure on habitat in the Study Area. The Montana Department of Fish, Wildlife and Parks (MFWP) has mapped critical habitats in the Study Area. According to this mapping, winter range for White-tailed Deer, Mule Deer, and Elk exists along the south and west edges of the Study Area and north of the upper half of Whitefish Lake. Winter range is considered critical for these species. Important habitats for terrestrial furbearers (Martin, Fisher, Wolverine and Lynx) are located in the upland areas to the west, north and northeast of Whitefish Lake. These species make use of a variety of habitats during the year and are considered to be a sensitive wildlife species in the greater Whitefish area. The lakes and riparian areas found in the planning area provide potential nesting habitat for a variety of waterfowl species.

Whitefish Lake contains six species of trout, kokanee salmon and 15 other fish species. Swift Creek, a major tributary of Whitefish Lake is rated as a high priority fishery resource by MFWP. Lazy Creek, Haskill Creek and the Whitefish River are rated as moderate fishery resources. Use of the Whitefish River by fish is limited due to the high amount of sediment present in the stream. However this stream serves as a migratory route for Bull Trout and West Slope Cutthroat.

Threatened and endangered species that would be expected to be encountered within the Study Area include the Bald Eagle and the Grizzly Bear. A travel corridor for the grizzly bear is known to occur in the Haskill Basin area northeast of Whitefish.

Wetlands are identified within the Study Area within the PER report and are protected via the US Army Corp of Engineers 404 permitting process and require involvement of both state and federal water quality permitting agencies should they be proposed for disturbance.

The Study Area is located in the Upper Flathead River Basin. Whitefish Lake, Blanchard Lake and the Whitefish River are the major sources of surface water in the area. Whitefish Lake is approximately 5 square miles in surface area, is 5.7 miles long by 1.4 miles wide and has approximately 15 miles of shore line. Its primary use is recreation and as the drinking water supply for the City of Whitefish. Water quality within Whitefish Lake is characterized as a low hardness, high quality surface source. Seasonal runoff from snowmelt or thunderstorms can increase turbidity and suspended solids temporarily. The Whitefish River is classified as a B-2 stream on the States 303(d) list for impaired stream segments. The river segment is classified as partially supporting a cold water fishery and aquatic life and fully supporting agricultural, drinking water and industrial needs. Because of the impairment listing, a TMDL will need to be established for the stream. The assessment and listing work are ongoing at the time of this report.

Generally, impaired stream segments will have total maximum daily loads (TMDL's) set to establish a threshold of pollutants which the stream can sustain without impacting the supported aquatic environment. The TMDL for this stream segment is due to be established between 2007 & 2009 by the MDEQ Planning Division, but has not occurred at this writing. Nutrient limits are expected to be established based upon background research on this segment. These nutrient limits may result in future permit constraints on "point dischargers" such as the City's wastewater facility. The City is aware of these possible nutrient discharge issues but has concluded the proposed improvements to the City wastewater facility are needed and can be incorporated into a future nutrient removal project if that becomes necessary.

Ammonia nitrogen effluent limits are discussed within the recently (July 2007) released MPDES Fact Sheet. Within that document, MDEQ asserts "The current facility cannot achieve the calculated total ammonia-N limits; these limits will not be included in this permit. The permittee must evaluate technologies and options to achieve compliance with the total ammonia-N limits by December 31, 2014." Ammonia limits are not addressed by the proposed project. It remains incumbent upon the City to address ammonia limits within the timeframe established within the final MPDES document once that document is issued.

VI ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Land Use – The proposed improvements will not require any land acquisition. There are no land use conflicts anticipated, and the proposed facility will not impact prime farmland.
2. Floodplain and Wetlands – The FEMA floodplain map for this area indicates the project is located outside of the 100-year floodplain. Floodplain permits would need to be obtained by the City in advance of performing any work within and existing floodplain as a separate permitting step.

There are some areas that may be identified as wetlands in the general area, but none proposed to be disturbed by the project. However, in the event that wetlands

need to be disturbed to construct the project, these areas are required to be delineated per 404 permit standards and a 404 permit would be required.

3. The Montana State Historical Preservation Office (SHPO) was contacted and the site investigated to determine whether there is a probability of impacting cultural or historic resources. The SHPO did not identify any cultural or historical sites in the project area. The surface area has been largely disturbed due to being within the footprint of existing sanitary sewer infrastructure. As a result, SHPO is not requiring a cultural and historical survey.

4. Fish and Wildlife –The U.S. Fish & Wildlife Service reviewed the proposed project and determined that the Service does not anticipate impacts to any federally listed threatened, endangered, candidate or proposed species. The Montana Fish, Wildlife and Parks (FWP) indicated there are species of concern in the project area (namely grizzly bears and bald eagles) but they did not anticipate these species would be impacted by the proposed project.

5. The Department of the Army, Corps of Engineers were contacted and indicated that if fill should be placed or discharged to waters of the United States, a Section 404 permit would need to be obtained. Specifically they indicated that if work were needing to be performed on the discharge diffuser pipe within Whitefish River, that a permit would be needed.

6. Water Quality – The proposed wastewater treatment facility will continue to discharge to Whitefish River. Treated effluent will be equal or higher quality than what has been discharged previously. Improvements to the existing lift station will prevent future discharge of untreated wastewater from overflowing into Whitefish River during peak flow events which have in the past challenged the Main Lift Station.

7. Air Quality – Air quality impacts with respect to wastewater treatment and disposal consist of noxious odors and the conveyance of airborne pathogens. Some air pollution due to particulate matter is likely during construction. Every effort would be made to minimize these impacts. However potential health impacts from the spread of airborne pathogens are considered remote. The treatment facilities are somewhat remote, downwind and public access is limited.

8. Public Health – The selected improvements will provide a better, more up-to-date wastewater treatment facility which will improve the quality of life for the community, make the community more desirable, and ease the maintenance responsibilities of the City's operations staff. Reduction of the public health risk associated with groundwater and surface water pollution by the existing wastewater system would have an obvious positive impact on the community.

9. Energy – Larger pump motors or even pump impeller replacements may result in increased energy consumption. A small increase in energy usage could result, but is not considered significant. A direct short-term impact of energy resources will be the energy consumed during the construction phase.

10. Noise - Short-term impacts from excessive noise levels may occur during the construction activities. The construction period will be limited to normal daytime hours to avoid early morning or late evening construction. No significant long-term impacts from noise will occur.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction related impacts (i.e., noise, dust, traffic disruption, etc.) will occur but should be minimized through proper construction management. Energy consumption during construction cannot be avoided.

VII. LISTING AND EVALUATION OF MITIGATION, STIPULATIONS AND OTHER CONTROLS ENFORCEABLE BY THE AGENCIES

A. Air Quality – Dust control will be required through the contract documents during construction to mitigate the temporary impact of construction. Watering during construction is a common and effective measure to control dust.

B. Vegetative Cover – Some vegetative cover will be disturbed during construction, but will be mitigated by reseeding of disturbed areas. Reseeding should be effective, as it will be part of the construction contract.

C. Historical and Archaeological Sites – Although no impacts to cultural or historical resources are expected, if any archaeological resources are discovered during construction, the Montana State Historic Preservation Office (SHPO) must be notified.

- D. Aesthetics – The new wastewater treatment facility improvements will be constructed at the existing treatment location. Levels of odor associated with the treatment facility are not anticipated to change. A new main lift station structure may be more visible than what is present at the site, but does not appear to be aesthetically significant.
- E. Locally Adopted Environmental Plans and Goals – The PER was subject to continuous review by the City of Whitefish to ensure compatibility with land use plans and regulations.
- F. Density and Distribution of Population and Housing – The proposed project is designed to accommodate 5 percent growth per year over the next ten years followed by a 3 percent growth rate from 10 to 20 years out from 2006. The existing trend in growth is expected to be supported by this activity. However the growth is expected to happen with or without these community services, so this project is not expected to result in an increased source of pollution and may achieve more advanced treatment than other on-site type treatment systems.
- G. Controls Enforceable by Agencies – MDEQ will review construction plans and specifications and issue a Stormwater Discharge General Permit for Construction Activity. A floodplain development permit may be required by Flathead County or DNRC as appropriate for construction in the floodplain. A construction dewatering permit may also be required.

VIII. PUBLIC PARTICIPATION

A public meeting was conducted on April 3, 2006. The City Commission has documented their intent to continue to involve the constituents throughout the design and construction process with press releases, newsletters and Public Service Announcements. No adverse comments were documented by the City at the public meeting held.

IX. REFERENCE DOCUMENTS

The following document has been utilized in the environmental review of this project and is considered to be part of the project file: Whitefish Preliminary Engineering Report (PER), April 2006, by Anderson-Montgomery Consulting Engineers, Helena Montana. The PER, the Uniform Application Form for Montana Public Facility Project completed and submitted by the City and the MDEQ Discharge Monitoring Reports and Permit Files were the primary sources of information used in compiling this environmental review.

X. AGENCIES CONSULTED

The following agencies have been contacted in regard to the PER, which determined the basis for the proposed wastewater treatment and collection system project:

1. The Montana Department of Fish Wildlife and Parks (FWP) reviewed the proposed project and had no specific comments relating to potential impacts on fisheries habitat or impacts to wildlife.
2. The U. S. Fish and Wildlife Service (FWS) reviewed the proposed project and had no specific comments relating to potential impacts on fisheries habitat or impacts to wildlife.
3. The Montana State Historic Preservation Office (SHPO) considered the impacts of the proposed project on historical sites and cultural resources. The Office indicated that this project has a low likelihood of impacting cultural properties and that a recommendation for a cultural resource inventory is unwarranted at this time. The Office asks to be contacted and the site investigated should cultural materials be inadvertently discovered during construction.
4. The U.S. Army Corps of Engineers reviewed the proposed project and indicated that if work is necessary to place fill material, either permanently or temporarily below the ordinary high water mark of the Whitefish River or in a jurisdictional wetland, then a Department of Army permit may be required. The Corps of Engineers is responsible for administering Section 404 of the Clean Water Act, which regulates the excavation or placement of dredged or fill material below the ordinary high water mark of our nation's rivers, streams, lakes or in wetlands. A 404 permit will likely need to be secured for the project.
5. Department of Natural Resources and Conservation (DNRC) reviewed the proposed project and concurred with the City's engineer that the existing site is not in a mapped floodplain area.

Recommendation for Further Environmental Analysis:

☐ EIS ☐ More Detailed EA ☒ No Further Analysis

Rationale for Recommendation: Through the Preliminary Engineering Report (PER), prepared by Anderson-Montgomery Consulting Engineers, and the public process involved, the City of Whitefish determined that the preferred wastewater treatment and lift station alternatives will allow the facility to meet the State design standards and will improve the operation and maintenance capabilities of their system. Through this EA, the MDEQ has verified none of the adverse impacts of the proposed wastewater treatment and lift station improvement project are significant; therefore an environmental impact statement is not required. The environmental review was conducted in accordance with the Administrative Rules of Montana (ARM) 17.4.607, 17.4.608, 17.4.609 and 17.4.610. This EA is the appropriate level of analysis because none of the adverse effects of the impacts are significant. A Finding of No Significant Impact (FONSI) will be issued and legally advertised in the local newspaper and distributed to a list of interested agencies. Comments regarding the project will be received for 30 days before final approval is granted.

EA Prepared By:

Name Terry Campbell

Date 10/15/2007

Approved By:

(Print: name & title)

Signature

Date